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ABSTRACT

The purpose of this study of 69 manpower organizations is to investigate the organizational and environmental factors that determine the size and composition of social service agencies' organization sets. The unit of analysis is the organization set, defined as consisting of those organizations with which a focal organization has direct links. Two models of organization-environment interaction are considered--the resource dependence model and the natural selection model. This paper examines the differences in emphasis placed on autonomy versus constraint, and uses it to raise some questions about public policy and the design of human service delivery systems. Examined are two properties of the organization sets of manpower organizations: the size of the set, and the extent to which organizations in the set are concentrated in particular sectors of the organizational population of a community, or are dispersed across the entire range of possible organizational types. (Author/ML F)

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# ORGANIZATION SET SIZE AND DIVERSITY: LINKS BETWEEN PEOPLE PROCESSING ORGANIZATIONS AND THEIR ENVIRONMENT

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Relations between organizations have become a common topic for social research. The dominant theoretical perspective in the area of interorganizational relations posits that linkages between organizations serve as life-lines through which the resources necessary to implement an organization's core technology are received (Yuchtman and Seashore, 1967). Despite the fact that the instrumental value of an organization's network of linkages has been repeatedly stressed (cf., Aiken and Hage, 1967; Aldrich, 1972, Turk, 1973; Benson, 1975; and Whetten, 1977), we have a very meager understanding of the organizational and contextual factors which influence the establishment of these relationships. It is unfortunate that while the term "organization set" (Evan, 1966) has gained wide usage in the interorganizational literature, almost no research has been conducted on organization sets per se. Consequently, the purpose of this study of 69 manpower organizations is to investigate the organizational and environmental factors which determine the size and composition of social service agencies' organization sets.

Organization-Environment Theory

Two models of organization-environment interaction have developed in the past decade--the resource dependence model and the natural selection model (Aldrich and Pfeffer, 1976). The two models agree on the importance of understanding an organization's environment in order to fully understand its internal structure and processes, but they differ in their evaluation of the importance of the role of enviornmental selection. The resource dependence model portrays the organization as active and capable of changing, as well as responding to, the environment. Administrators manage their environments as well as their organizations, and the former activity may be as important, or even more important, than the latter (Pfeffer, 1977). On the other hand, the natural selection model emphasizes the external control of organizations, as the

environment is treated as selecting those structures and activities that fit best. The role of decision making and choice is downplayed, and administrators are posited to be dominated by their environments (Hannon and Freeman, 1977).

The resource dependence model proposes that the principal criteria for evaluating the effectiveness of an organization is the ability of its members to establish linkages with other organizations which will enable them to control critical resources (Yuchtman and Seashore, 1967). Within this framework, the role of organizational leaders is to formulate strategies for out-maneuvering other organizations competing for the same resources. If successful, this should place the organization in a position to dominate others within its ecological niche. This perspective pervades the current research on interorganizational relations and is typified by the following statement by Benson (1975: 231):

> ...it is assumed that organization decision-makers are typically oriented to the acquisition and defense of an 'adequate' supply of resources. Such an orientation becomes, for the decision makers, an operational definition of the purpose of the organization and thus of their responsibilities as decision makers.

The similarity between the resource dependence model and the political economy theory of organizations (Wamsley and Zald, 1973) has recently been noted by Benson (1975). Both theories propose that organizational leaders work to enhance their power over other organizations, and the distribution of power between organizations within a community is largely a function of the pattern of resource exchanges between them (Levine and White, 1961).

The natural selection model also proposes that effectiveness be indexed by an organization's bargaining position in the acquisition of resources sought after by others. However, whether resources are obtained as the result of managerial ingenuity or blind luck is unimportant, as the ultimate selection criteria resides in the environment, not the organization. The model is not

totally indifferent to sources of variation within and between organizations, however, as variation provides the raw material on which selection operates. Any external constraints, such as administrative or political mandates originating from sponsors or funding agencies, are relevant to the model insofar as they effect an organization's ability to respond to local environmental conditions.

The two models are complementary rather than contradictory alternatives, with both treating organizations as centers of resource concentration and power. Both are concerned with external constraints on decision making, but differ in the emphasis placed on administrative discretion in modifying structures and activities. Eventually these two models may merge into a single perspective, but at present it is useful to retain both because their differing emphases capture so many of the critical issues in organizational sociology. This paper exploits the differences in emphasis placed on autonomy versus constraint, and uses it to raise some pertinent questions about public policy and the design of human service delivery systems.

## People Processing Organizations and Organization Sets

The importance of establishing interorganizational linkages is clearly evident in the case of people-processing organizations. The core technology of people-processing organizations "...consists of a set of boundary roles which define the input of clients to the organization and mediate their placement in various external units" (Hasenfeld, 1972: 256). Classification and disposition is carried out in anticipation of the reactions of external units to the products of the people-processing organizations inasmuch as the products must conform to the requirements of external units. Blau (1965) showed that the judgments of an employment placement agency's effectiveness were based on the agency's ability to refer clients to organizations that implicitly accepted the

altered status conferred on the clients by the agency. In medical care and correctional systems, diagnostic centers depend upon their relations with a large number of external units to allow them to make placements matching clients' altered statuses. Many community centers in low income neighborhoods actually provide no services themselves, but instead refer clients to other organizations on the basis of an initial screening interview to determine their appropriate statuses.

Most social service organizations use a people-processing technology or have a large people-processing component, and this is particularly true of the organizations created by state and federal manpower training legislation in the past two decades. Three of the program types investigated in this study--Employment Services placement offices, On-the-Job Training programs, and the Neighborhood Youth Corps--operated mainly by screening applicants, certifying them as eligible for particular kinds of employment, and then referring them to training programs or employers. The fourth program investigated--Manpower Development and Training Skill Centers--accepted clients for a short training period, during which the services of other organizations were used to supplement the Center's offerings with clients then referred elsewhere for employment.

The unit of analysis in this study is the organization set. This concept is taken from Merton's (1957: 369) definition of a role set: "...that complement of role relationships which persons have by virtue of occupying a particular social status." An organization set consists of those organizations with which a focal organization has direct links. Aldrich (1977), and Evan (1966) proposed that an examination of this set would enable one to understand such things as the structure of the focal organization, the environmental pressures it faces, and the degree of autonomy it is able to achieve. Several studies of focal organizations' relations with organization sets have focused on the process by which organizations adapt to pressures from organization

sets. Evan (1972) examined the organization sets of federal regulatory commissions and the pressures that lead to the commissions becoming the defenders, rather than the regulators, of the industries they were created to monitor. Hirsch (1972) investigated how publishing houses, movie studios, and record companies changed their relations with members of their organization sets because of demand uncertainty for their products and technological requirements. Elesh (1973) studied the strategies used by universities in competing for new students with other universities considered to be of the same quality and thus in the organization sets defined by "competitor" relations.

Set Size and Diversity

We will examine two properties of the organization sets of manpower organizations: the size of the set, and the extent to which organizations in the set are concentrated in particular sectors of the organizational population of a community, or are dispersed across the entire range of possible organizational types.

A large organization set permits people-processing organizations' administrators to have access to a large potential resource base. The larger the set, the greater the opportunity to secure required resources such as clients, training and employment positions, rehabilitative and social services, financial support, staff and physical facilities, and visibility and legitimacy (Aldrich, 1972; Benson, 1975). For example, employment counselors will be in a better position to place clients with specialized skills if their agencies have information regarding job openings in a large number of businesses. The creation of computerized job banks which permit a local employment service agency to greatly expand its information procession capacity reflects the interest of top administrators in expanding organization set size.

Another benefit of a large organization set is that it may reduce a focal organization's dependence on any single interacting organization

(Evan, 1966). The larger an organization's base of funding, the less vulnerable it is to a decrease in the amount received from one source. A large organization set may also provide organizational administrators with information regarding probable shifts in the availability of resources within different sectors of the community. Based on this information alternative sources can be multivated which increase the long term stability of the organization set.

A large organization set not only facilitates the control of tangible resources but also enhances the visibility and legitimacy of an organization. In the public sector it is often difficult for a client to evaluate the quality of the services provided by a people-processing organization. Since referring organizations and funding agencies are often unable to adequately evaluate a social service organization's product, it is likely that they will use visibility and legitimacy as criteria for selecting organizations to support (Whetten, 1978).

Diversity in an organization set's composition is advantageous for several reasons. First, as Hasenfeld (1972), Mindlin and Aldrich (1975), and others have pointed out, the availability of alternative suppliers and customers is a primary condition under which organizational autonomy is maintained. A large organization set is one way of achieving this condition, and maintaining links with organizations in many different functional sectors of the interorganizational division of labor is another tactic. Just as a large set is more likely to include a number of alternative or substitute suppliers and consumers, so also an organization set with representatives of several different sectors of the environment is less likely to be adversely affected by a specific type of organization losing governmental support or suffering from a depressed economy. For example, if an organization that

provides vocational training maintains links with a large manufacturing firm and a general hospital, it is more likely to be aware of a simultaneous discontinuation of on-the-job training in the firm and the availability of similar positions at the hospital than would be the case were it linked only to the business firm.

A second benefit of organization set diversity is that it increases an organization's ability to keep abreast of innovations in administrative practices, basic technology and the delivery of services in its field. The more heterogeneous an organization's contacts with its environment, the more diverse the information received via the interactions or organizational professionals with members of other organizations (Hage and Aiken, 1967; Aldrich and Herker, 1977).

The Resource Dependence Model and Organization Sets

To this point we have argued that a large and diverse organization set is vital to a people processing technology. However, our interest is not so much in demonstrating the need for interorganizational relations as in gaining insights into the process whereby linkages between organizations are established. The resource dependence model suggests that linkages are the outcome of deliberate decisions by staff members to obtain control over resource A by considering the costs and benefits of establishing an agreement with agency X as compared with agency Y and then selecting the alternative which will most likely increase the focal organization's dominance over its environment. However, previous research on interorganizational relations has not tested the utility of the resource dependence model in predicting the entire set of relations which an organization has established. Instead it has tended to focus on a small subset of dyadic relations, such as joint ventures (Aiken and Hage, 1967; Pfeffer and Novak, 1976), or mergers (Pfeffer, 1972).

This is an important point because the theory's assumptions about the manner in which decisions to establish interorganizational linkages are made may apply only for these kinds of linkages which involve a large commitment of organizational resources. Since these generally represent only a small fraction of a public agency's total set of interorganizational relations we question the appropriateness of viewing the total organization set as the consequence of highly deliberate administrative practices derived from any organizational or decision making theory. On the contrary these networks may simply be artifacts of legislative and budgetary guidelines and the characteristics of the local community over which organizational heads have little control. Argyris (1972) argued that the authors of much of the research on the structure of public agencies could have arrived at the same conclusion by simply examining the civil service regulations and other policy guidelines governing these organizations. While this criticism may be somewhat overstated, it is clear that the heads of public agencies are greatly limited in the kinds of administrative decisions they can make. Many options for controlling the environment used by administrators in private organizations are not open to heads of social service agencies. These include opening branch offices; significantly increasing the size, or substantially altering the occupational composition, of their staff; eliminating a costly product, service or client group; increasing the budget for a product by raising its price; and expanding their organization set to encompass organizations outside their local jurisdiction.

In fine, our reservations about using the resource dependence model as the dominant perspective for studying the development of organization sets stems from the fact that policy, budgetary and geographical restrictions greatly constrain the decision making process within social service agencies. The objective of this study is to determine whether these concerns are well

grounded empirically. To do this we will examine the relationships between a wide range of organizational and community characteristics, which vary greatly in terms of how much control agency directors have over them, and the size and diversity of social service agencies' organization sets.

Determinants of Set Size and Diversity

We are interested in the relative predictive power of two broad classes of variables: community and supra-agency factors over which a local agency's staff have little control, and administrative practices initiated or potentially manipulable by organizational leaders. Based on our review of the organization-environment literature and our previous research experience with these organizations, we identified several organizational and contextual characteristics which we expected would be associated with large and diversified organization sets. To determine how much power local agency heads had over these variables, we asked several experts in the field of manpower program administration to rate each characteristic on a scale from 1 (Organizational leaders have no control over this) to 7 (Organizational leaders have total control over this). There was a high degree of consensus among the members of this panel that the characteristics could be classified into three categories. These consisted ofthe two extreme cases of near or total autonomy (6,7), little or no autonomy (1,2) and an intermediate level (3-5) wherein the administrator is constrained by program guidelines, but if he is assertive and creative he can expand his scope of control. Figure 1 shows the variables which fit into each category.

The variables in Category A are essentially determined by the legislative and program guidelines governing the local agencies or the characteristics of the local community. It is quite difficult for local agency heads to alter the characteristics of the population of organizations in the

community, the size and complexity of their agency, or the core technology they utilize for processing clients. Local administrators have more control over the hiring process (Category B) wherein they can, to some extent, select their staff on the basis of certain background and personal characteristics which are perceived to facilitate the process of interacting with other organizations. While administrators have some control over this activity, their autonomy is circumscribed by civil service guidelines, the salary level they can offer, the technical requirements for the positions, the need for the staff to be able to relate with, and be respected by, the clients and the types of people who are likely to apply for this type of work. In contrast, the administrators have almost total control over the variables in Category C. They initiate coordination and communication procedures and assign or encourage boundary spanning activities for staff members.

The resource dependence model gives greatest weight to variables in Category C, whereas the natural selection or ecological model gives greatest weight to external constraints on organizational activities, thus emphasizing Category A. Variables in Category B are a mixed lot, potentially subject to administrative control but only with extra effort. The relative explanatory importance of these three categories of variables is the focus of our study, but we are also interested in the predictive power of each of the sixteen variables in Figure 1. They were selected because of their plausible relationship with organization set size and diversity, and the rationale for including each variable is given in the following seven hypotheses.

Community Context

An important characteristic of the community context that should affect coordination between organizations is the number and diversity of the organizations in the community. Previous investigators, working at the dyadic

level of interorganizational relations, postulated a curvilinear relation between the number of organizations in a population and the development of coordinating agencies or interfirm organization (Litwak and Hylton, 1962; Pfeffer and Leblebici, 1973). Their argument was that a population with a large number of organizations is less able to develop a collective structure of interorganizational relations due to the large number of linkages required to connect all organizations involved. From the perspective of any single organization, however, having a large and diversified population from which to choose should facilitate the development of a large and diversified organization set. We are thus led to the following hypothesis:

> H1: The larger and less concentrated[1] the organizational population, the greater the opportunities for forming interorganizational links, and hence the larger the organization set and the lower the concentration of set members in a small number of sectors.

Organizational Size and Complexity

Since our purpose is to predict the size and diversity of organization sets, it is logical to include the size and diversity of the organization's staff as independent variables. The overall scale of the organization is a function of the agency's budget, which is set by state and federal authorities. The amount of money available for hiring staff is a major parameter over which the local leaders have little control. We expect that staff size should affect the size of the organization set because larger size means more people available for initiating linkages with other organizations.

Occupational differentiation represents the level of internal specialization an organization has attained in the delivery of its services. Specialists must be hired within the guidelines laid down by supra-organizational authorities. Hage and Aiken (1967) have shown that the level of professional

differentiation in a social service agency is positively related to the rate of program innovation and the number of joint programs established. Although their definition of interorganizational relations was much more restricted than ours--joint programs versus many forms of interorganizational linkages--we expect that the relation between occupational complexity and interorganizational relations will be similar, inasmuch as the greater the diversity in occupational specialities, the greater the opportunities for specialized staff to concentrate on linkages with organizations from specific community sectors.

> H2: The larger the budget, the greater the number of staff and the wider the range of occupational specialities they represent, the larger and less concentrated the organization set.

Technological Complexity

In a social service agency, technological complexity refers to the number of different services and the breadth of services offered clients. The greater the number of services offered, the more complex the organization's processing activities. The breadth of services offered ranges from cases where only a limited aspect of the client's life-span is of concern, to cases where there is broad interest in the client as a whole person (cf., Lefton and Rosengren's [1966] distinction between minus and plus laterality). An organization with a broad concern for its clients may provide not only vocational training but also personal counseling, day care services, and a job placement service. We expect that the greater the number of services provided and the greater the client life space encompassed by these services, the greater the need for linkages with other organizations.

> H3: The larger the number of services offered and the more inclusive the services, the larger and less concentrated the organization set.

Characteristics of the Staff

Two of the personal characteristics of the staff which could influence their ability to initiate interorganizational relations are the level of professional training and the number of previous positions they have held in other community-based organizations. Previous research has shown that when local community leaders were asked to rate the effectiveness of these organizations, one of the organizational characteristics associated with a positive rating was a well educated staff (Whetten, 1978). We expect that well educated and articulate representatives of these agencies tend to enhance their program's legitimacy in the community, which in turn makes it easier for them to establish agreements for client and service exchanges with other organizations. Well educated staff members are more skilled in negotiating and monitoring the exchange relationships and this also contributes to the positive image of the organization. Similarly, staff members should be better qualified if they had held positions in other organizations in the community because this background would increase their awareness of training and employment opportunities in the community. This form of integration has been observed in studies of the movement of staff between divisions of multinational corporations (Galbraith and Edstrom, 1974) as well as between organizations within an industry (Pfeffer and Leblebici, 1973). After a staff member has been hired, the distinctive competence of the agency can be maintained or upgraded by encouraging continuing involvement in professional activities.

H4: The greater the professional training and activity of staff members and the greater the number of previous jobs held by the staff in manpower relevant organizations, the larger and less concentrated the organization set.

Boundary Spanning Activities

Boundary spanning tasks are an integral part of the core technology of people-processing organizations, as most of the work of the organization (i.e., classification and disposition of clients) takes place at the organization's boundaries (Aldrich and Herker, 1977). We will focus on three types of boundary spanning activities. These are: (1) Providing direct services to clients on a day-to-day routine basis, with such activities requiring service and client coordination with external units on a case-by-case basis; (2) Formal coordination with other organizations via planned coordination mechanisms, such as interagency committee meetings or memberships on overarching coordinating bodies; and (3) Informal coordination in extra-organizational settings, such as through membership in local voluntary civic or community action associations. All three types of boundary spanning activities help overcome the obstacle to coordination among social service agencies that results from a lack of shared information about service offered and clients available (Warren, Rose and Bergunder, 1974).

Voluntary association memberships facilitate interorganizational coordination not only because they serve as an information channel but also because overlapping memberships tend to mitigate conflict between organizations. Turk (1973) argued that community-wide associations provide a means for the expression of shared values and the breaking down of organizational hostilities through cross-cutting and overlapping memberships.

> H5: The higher the proposition of staff engaged in boundary spanning tasks and the greater the number of coordinating organization and voluntary organization memberships held by the staff, the larger and less concentrated the organization set.

Administrative Control and Coordination Practices

Because the local agency heads appear to have substantial control over this set of variables the problem of correctly identifying the direction of

causality between the "independent" and "dependent" variables is more difficult (Hall, et. al., 1976). Since the previously discussed organizational characteristics are not as readily adapted by administrators to changes in local environmental conditions, we are confident that they are correctly classed as independent variables. While one must approach assigning the direction of causality between internal coordination and control variables and the number of interorganizational relations with more caution the prevailing belief in the field is that centralization of decision making authority and formalization of work rules decreases over time in response to the increased size and complexity of the organization's set of interorganizational relationships. This is due to the fact that an expanding number of linkages produces a greater volume of boundary spanning decisions which must be made by central administrators and this in turn prompts them to decentralize some of their decision making authority to boundary spanning personnel. Aiken and Hage (1967) first proposed this hypothesis but their research on organizational characteristics and the number of joint programs produced just the opposite finding. In his follow up study, Paulson (1974), provided support for the original hypothesis by showing that centralization was indeed negatively correlated with the number of interorganizational relations in his sample of organizations. We feel that this contradiction in results may be due to the measure of interorganizational relations used in the two studies. Aiken and Hage measured only joint programs which presumably involved the commitment of a substantial amount of the organization's resources, whereas Paulson measured a broader range of relationships, similar to the current study. This is a significant difference inasmuch as the amount of resources being commited to joint programs likely increases the concern of senior administrators for tight fiscal control which may outweigh their concern over having to

spend a great deal of time focusing on boundary spanning activities. Inasmuch as this study is examining interorganizational linkages which generally do not involve a substantial commitment of resources we expect that centralization of decision making authority and formalization of work procedures and rules will decrease as a function of the size and diversity of the organization set.

Information sharing between staff members is expected to be positively related to interorganizational activity because it facilitates the circulation of knowledge regarding the location and availability of resources in the environment. If an organization has frequent staff meetings to exchange information, the staff as a whole will be more informed about opportunities for enlarging the organization set. Hage and Aiken (1967) reported a correlation of .83 between the number of committee meetings per month and the number of joint programs, with the correlation only moderately reduced when partial correlations were computed. Paulson (1974) in his replication of the Hage and Aiken studies found a more modest .28 correlation between these two variables.

> H6: We expect that centralization and formalization will be negatively related to the size and diversity of the organization set. We further expect that the number of staff meetings held will be positively associated with a large and diverse organization set.

In our earlier discussion of the advantages of large and diverse organization sets, we noted that a large organization set reduces a focal organization's dependence on any single interacting organization. Large set size also allows focal organizations to distribute dependencies across various sectors of a community's organizational population, thus cushioning the organization against drastic change in any particular sector. To the extent that administrators recognize this benefit, they will use an increase in set size

to diversify their interorganizational linkages. However, if our previous hypotheses are correct, there may be little discretion left to administrators to diversity.

H7: The larger the organization set size, the less concentrated the set.

Methods

The study was conducted during the summer of 1973 in communities throughout New York State, excluding New York City (Whetten, 1974). The study involved 81 organizations representing four types of manpower programs: Neighborhood Youth Corps, On-the-Job Training programs, Manpower Development and Training Skill Centers, and New York State Employment placement offices. A brief description of each program type is included in Appendix I. Three different survey instruments were used to collect information on the variables used in our analysis.

Information about the internal operations and structure of an organization was obtained from an interview with the director as well as from a self-administered questionnaire completed by the professional staff and the director. The staff excluded from the questionnaire survey were secretaries, clerks, bookkeepers, and general office help. The self-administered questionnaire provided information about the individual activities, background, and perceptions of staff members, as well as some aspects of the organization's structure and technology. The agency director was asked questions abou the organization as a whole, such as number of staff and current level of funding. We assumed that the director was the most reliable informant for providing such information, as he or she was most likely to have direct access to the required information.

Information about the composition of an agency's organization set was obtained from the director's response to a master list of organizations in the community. The master list was a compilation of every known public and non-profit organization in the focal organization's community and surrounding communities, and was compiled over a two year period from directories of community organizations supplied by local government and social service coordinating agencies. The list was validated by asking the directors of the manpower organizations and the heads of the Social Services Department and Chamber of Commerce in each city to check the list for omissions and errors several months before the interview. Orgnaizations on the master list were classified into ten categories, shown in Appendix II, based on the sector of the community they represented.

Private or profit oriented businesses were not included in this analysis because the list of businesses on the master list was compiled in much less systematic manner and was incomplete in some respects. Agency directors were asked to indicate which of the organizations on the master list their organization interacted with, and to specify the nature of the relationship. In this paper we disregard the latter information and use only the director's response as to the presence or absence of a relation.

The unit of analysis is the organization, with some variables constructed from the aggregation of individual responses. There is little agreement among organizational investigators about the most appropriate method of aggregation (lynch, 1974). In our case we used the simple average of all individual scores within each organization. Hage and Aiken (1967) have proposed an alternative two step approach of aggregating by social positions, with a position defined as the unique intersection between the vertical (hierarchical) and horizontal (occupational) axes. We chose not to use this approach for several reasons.

These include: 1. It implicitly assumes that the process of horizontal differentiation, by position and department, has reached full maturity in the organizations being studied (cf., Blau, 1972). However, we found that this was not the case in many manpower agencies due to their small size or lack of technological complexity. 2. When, as in our sample, there are a small number of people assigned to each social position this approach results in the aggregation of unreliable scores. 3. The social position appraoch produces an organizational score which is "top heavy". That is, it places a disproportionately large weight on the responses of top administrative leaders since individual responses are averaged first by their position and there are typically fewer people occupying administrative positions than staff positions. If researchers are studying a phenomenon such as the adoption of expensive new equipment, or programs, which require the approval and support of the organizational elites, then an organizational score of people's attitudes toward innovation, for instance, probably ought to be weighted in favor of the senior officials since that will accurately reflect the impact which any given person's attitude is likely to have on the decision to adopt. However, the phenomenon we are studying is quite different. The decision to send client A to organization X or Y is more likely to be influenced by the staff members handling the actual people processing activities than by senior administrative officials. Consequently, we feel that a simple average of all responses produces organizational scores which are more valid indicators of the factors impinging on this particular phenomenon. One of the proposed advantages of the social position approach is that it compensates for different sampling ratios for each position. We handled this problem by dropping 14 organizations in which there was a low response rate for both the total staff and the two sub-groups of supervisors and subordinates.[2] We found that even in the

very small organizations there was clear hierarchical distinction between supervisors and subordinates and consequently we were careful to obtain adequate samples of each.

While we have included operationalizations of our independent variables in Appendix III we will discuss our two dependent variables here. Organization set size is operationalized as the total number of non-profit local organizations, public and non-profit, with which a focal manpower organization interacts. The mean size of the organization sets is 72, with a median of 56. Sets ranged in size from a minimum of 12 to a maximum of 267, with the standard deviation being 48.

Organization set diversity is operationalized using the H concentration measure (Adleman, 1969) which is the sum of the squared percentages of organizations in each of the nine community sectors. The computing formula is:

$$\sum_{i}^{N} \left(\frac{a_i}{A}\right)^2$$

with $a_i$ defined as the number of organizations in sector i and A defined as the total number of organizations in the organization set. H then measures the extent to which members of the organization set are concentrated in a few sectors or spread out over many--the larger the H, the higher the concentration (or the lower the diversity). The mean H is .17, with the standard deviation being .05.

Results

To determine if the four types of manpower programs should be included as a variable in the study, a one-way analysis of variance was calculated for each variable to check for significant differences between the four programs. Of the 18 variables included in our analysis, only 2 showed significant differences by program. As an additional check, dummy variables for program

type were included in our regression analysis. For both dependent variables these variables had very small and statistically insignificant beta's. Consequently we decided not to include program type as a variable.

Table 1 shows the correlations between the contextual and organizational characteristics and organization set size and diversity. Basically these results confirm our overarching hypothesis that external constraints have a greater effect on the size and diversity of organization sets than do local administrative practices. Of the 13 correlations with values of .20 or higher (p=.05) between the independent and two dependent variables, only three involve variables from Categories B or C in Figure 1.

Table 1 About Here

Since zero order correlations can be misleading when the independent variables have moderate intercorrelations we ran a two step multiple regression for each of the dependent variables. To do this we regressed the dependent variables on Category A variables first and then on the Category B and C variables. We did this because we are confident that the A variables are causally prior to the B and C variables. Since we were less sure of the exact ordering of all 16 variables a full scale path analysis is inappropriate. Table 2 shows the results of this analysis.

Table 2 About Here

Again we see that the contextual factors are better predictors of organization set characteristics than administrative practices. The increase in $R^2$ attributed to the variables manipulatable by agency heads (B and C) is much smaller than the $R^2$ from variables reflecting external constraints. This conclusion is supported by the fact that for the dependent variable organization set diversity, only 3 of the 10 independent variables with significant

beta weights are from the B or C categories. In the case of organization set size 3 of the 5 significant independent variables are from the A category.

Examining our seven specific hypotheses we find considerable support for hypotheses 1-3 and 7 and only weak support for hypotheses 4-6. Both the size and concentration of the organization set are affected by the breadth of services the organization provides and the number of different occupational specializations used in dispensing these services. The size of the set is influenced by the potential number of linkages which can be made with other organizations in the community, the number of non-task related organizations the staff belong to and the rate of communication in the organization. Set concentration is dependent on the level of concentration in the population of community organizations, the size of the agency's budget, the number of staff, their level of professional training, the amount of boundary spanning activities assigned to them and the formalization of the work relationships. One of the most striking patterns in this table is that the overall scope and size of the organization (variables A3-A7, C3) appear to have less impact on the size of the organization set than they do on the set's concentration. It appears that as an agency increases the scale of its operations the added staff are used to establish relations with a greater diversity of organizations. This outcome is likely due to the fact that the principal mechanism for growth in these agencies is the addition of new service delivery programs which are generally different from, though related to, current programs. This suggests that the breadth of the agency's activities (A5-A7) is the most fundamental determinant of the diversity of its organization set and that the size of its budget (A3), the number of staff it employs (A4) and the percent of boundary spanners it utilizes (C3) are simply first order outcomes of this horizontal growth process which in turn facilitate the development of a diversified organization set.

There are two additional results in Table 2 which ought to be highlighted. First, we are unfortunately unable to add much clarification to the confusion in past research regarding the relationship between internal coordination and control practices and interorganizational relations because while the regression coefficients for communication and formalization are both significant and in the hypothesized direction for one of the two measure of organization sets characteristics, the overall pattern of relationships (both correlations and beta weights) between this act of independent and dependent variables is rather weak. While this is consistent with our overall expectation that ... control and coordination practices play a less significant role in the process of establishing interorganizational relations than other organizational characteristics, our interest in resolving the contradictions in past research on this topic is still keen. Second, we feel that the concept of boundary spanning has been too narrowly conceptualized in the past, inasmuch as it is typically defined as on-the-job extra-organizational relations. While this study has demonstrated the importance of job related boundary spanning activities (C3) as a predictor of interorganizational relations we have also shown that off-the-job contacts through the medium of local voluntary organizations and community action associations also enhance an organizations' ability to enlarge its entwork of relationships.

Policy Implications

From Table 2 we can see that while each of the seven hypotheses were plausible when considered individually, by grouping these organizational and contextual characteristics according to how much control local administrators have over them we obtain a much clearer understanding of their true effect on interorganizational relations. These results seem to reflect three aspects of the interorganizational linkage formation process: (1) The need for an organi-

zation to establish linkages (breadth and number of services offered); (2) Various means which facilitate the establishment of interorganizational relations (size of the budget, number of staff and occupational specialists, level of professional training, memberships in voluntary organizations and internal communication and coordination); and (3) Environmental constraints on the number of linkages that can be established (set size and size and diversity of the organization population). Viewed in this manner, these results have important implications for the design of social service programs. Since most of the factors which significantly influence the composition of organization sets for state or federal people-processing agencies are essentially pre-determined before local administrators are hired, federal and state program administrators must assume substantial responsibility for facilitating the establishment of a large and broadly based network of interorganizational relations. In this regard, one federal system design principle which can be extrapolated from these results is: a program should have a balance between its needs for interorganizational relations and its means for facilitating the establishment of these linkages. Since agency heads have little control over the types of positions in their agency and the division of labor between their counselors, interviewers and teachers, it appears important for program designers to increase the range of occupational specialities in a program if they plan to increase the breadth of services to be provided. An example of an imbalanced program would be one which provided a large number of services that dealt with a broad range of client problems but was operated with a narrow range of occupational specialities and on such a small budget that compensating for the low diversity of occupational specialists by hiring a large and well educated staff would not be feasible.

Our proposition that designers of social service programs should explicitly recognize the needs for external relations which their program will contain and then ensure that they have built in adequate provisions for establishing these linkages represents an extension of the more common practice of balancing internal needs for coordination with the means for achieving coordination. Such an approach is appropriate for long linked or intensive (Thompson, 1967) people changing technologies but for mediating people-processing technologies concerns over insuring proper interorganizational coordination should be given priority along side concerns for intraorganizational coordination. Table 1 suggests that this criteria was not used in the design of these people-processing programs. The "need" variables, number and breadth of service (A6-7), do not have a single high positive correlation with any of the "means" variables controlled by program designers (A3-5). Thus, by default the primary responsibility for coping with the need for interorganizational relations is left up to the local agency heads who are only able to manipulate those aspects of the organization which have a marginal impact on the size and diversity of the organization set.

We find some evidence of this coping behavior in Table 1 since the number and breadth of services is correlated positively with the professional activity of the staff, participation in interagency coordination councils, memberships in voluntary organizations and a large percentage of boundary spanning roles. Of these variables, voluntary organization memberships is the most intriguing to us because it has largely been overlooked in previous interorganizational research. This result suggests that for public community-based organizations, the practice of identifying boundary spanning roles solely on the basis of whether a person's work requires boundary spanning activity may be too narrow, as it appears that considerable job related

boundary spanning activity is occuring outside the context of an employee's eight-hour work day. This opens up a whole range of administrative strategies for enlarging and diversifying organization sets. It appears that activities which enlarge a staff's range of personal contacts with members of relevant local organizations increase their value as mediators between the needs of clients and available opportunities for their fulfillment.

At the time this data was collected one of the factors which tends to reduce the balance between the need for interorganizational relations and the means for establishing them in these federal social service programs is that the same standardized program was operated in all communities, regardless of their size and other idiosyncratic differences. Since budgets are generally a function of the size of the client population, programs in small towns tend to be very modest. However, a reduction in the size of staff is often not accompanied by a reduction in the scope of the program. Therefore, a small staff in a rural area may be responsible for providing basically the same range of services as their counterparts in a larger urban setting. The difficulty of this undertaking is compounded by the fact that rural settings have fewer, and a less diversified group of, organizations with wich to establish linkages and the members of these communities tend to be less professionally oriented. Table 1 provides some support for these conclusions as it shows a correlation of .33 and .34 between the number of organizations in the community (a surrogate for community size) and the size of the agency's budget, and the professional activity of the staff, respectively.

This line of reasoning supports the current federal policy of decentralizing and decategorizing manpower planning. Instead of implementing one standard program in all communities throughout the country, the Comprehensive Employment and Training Act of 1974 places the authority for designing programs in

the hands of local community leaders. These people will now be in a position to tailor their employment and training programs to both the needs and capabilities of the community.

## Conclusions

Our purpose has been to investigate the effects of administrator autonomy on the composition of organization sets for people-processing organizations. We have shown that level of autonomy is an important predictor and have discussed the implications of this finding for the design of social service programs. From a theoretical perspective, we were interested in testing the applicability of using the resource dependence and natural selection models to predict the composition of organization sets. The question we raised was whether the resource dependence model might assume that agency heads administering state and federal social service programs have more autonomy than they actually possess. Our investigation found that an agency's relations with other organizations are largely an outgrowth of program and legislative guidelines, as the natural selection model--focusing on external constraints--might lead us to expect.

Both the resource control and natural selection models underscore the importance of considering environmental conditions in research on organizational effectiveness, organizational design, and administrative decision-making. The principal difference between the two is that while the resource control theory is centered on the intentions of organizational leaders, the evolutionary model focuses on constraints independent of the perceptions and actions of organizational members. It postulates that conditions in the environment positively or negatively reinforce the decision made by organizational leaders. If a particular structure or activity is not selected when environmental conditions change, it matters not whether this was because the

leaders misperceived the change or properly interpreted the incoming information but lacked the interest or ability (e.g., autonomy to change significant variables) to act on their knowledge. Either way, the result is the same. Our research suggests that since so many of the key factors affecting the establishment of linkages between organizations in the public sector are not directly controllable by their staff members, it appears that the explanatory power of the resource control model is restricted and that the natural selection model may represent a more fruitful approach for directing future research in this area.

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## Footnotes

1. Note that the terms high diversity and low concentration are used interchangeably throughout the paper.

2. An examination of these 14 organizations indicated that they did not vary significantly in terms of program type, organizational characteristics or organization set size and diversity from the remaining 67 organizations.

# APPENDIX I

## PROGRAM DESCRIPTIONS

OJT (On the Job Training): The OJT programs in the study were all federally funded and operated out of the district office of the State Employment Service. It is designed to place disadvantaged workers in jobs in private businesses where they receive training on the job and eventually move into a regular job slot. During the training period their wages are subsidized by the OJT program.

MDT Training Centers: MDT Training Centers were begun under the Manpower Development and Training Act to give vocational training to disadvantaged workers who wished to learn a new skill or upgrade the skills they had previously learned. Most Centers offer at least five different kinds of training, ranging from skilled mechanic classes to registered nurses training. Some also include prevocational skills for workers with little education or unsatisfactory work habits. Certification of eligibility for training and placement in jobs after training are handled by local Employment Service offices, sometimes with an office on the premises.

NYC (Neighborhood Youth Corps): NYC programs are the most homogeneous category of manpower programs in our study, as most perform only one function: finding jobs for youth aged 16 to 21 in nonprofit public and private organizations, although some do provide counseling services. The largest component of NYC is the In-School and Summer employment program which serves in-school youth from families below the poverty line. Most NYC programs are affiliated with local OEO-CAP agencies.

Local Employment Service Offices: The final component of the manpower training system studied is the local Employment Service office in each urban community. Although federally funded, the Employment Service is operated on a state-by-state basis and its structure varies across the states. Employment Service offices are to provide testing, placement, and job market information to all persons seeking employment, although in practice they serve mainly the disadvantaged and persons without access to other channels of employment information.

## APPENDIX II

## COMMUNITY SECTORS

The nine community sectors were: (0) Manpower programs that are state or federally funded; (1) Education, training and employment organizations, e.g., schools or employment information centers; (2) Economic assistance organizations, e.g., social services departments of the F.H.A.; (3) Medical and health care organizations, e.g., hospitals and nursing homes; (4) Public safety organizations, e.g., police and fire departments; (5) Recreation and entertainment organizations, e.g., Boy's Clubs or youth camps; (6) General social service organizations, e.g., Family Services, Senior Citizens Information Service, or the Salvation Army; (7) Administration, research and central planning organizations and agencies, e.g., the mayor's office, city planning departments, or any of the many New York State departments; and (8) Special interest organizations, e.g., NAACP, Mental Health Association, the Better Business Bureau, or the AFL-CIO. Sector (9), Private and profit-oriented businesses, is excluded from this study.

## APPENDIX III

## OPERATIONALIZATION OF INDEPENDENT VARIABLES

Highly skewed variables were logged to obtain a more normal distribution.

Size of the Organizational Population: The total number of non-profit organiations in each community.

Diversity of the Organization Population: All non-profit organizations in the community were categorized by community sector (See Appendix II) and then the "H" statistic was calculated.

Budget: The amount of money allocated to an agency for the 1972-73 fiscal year by the state or federal government. Since the individual Employment Service offices did not have a separate budget their operating expenses were figured by multiplying their number of staff times an average salary and overhead amount supplied by the state office. This variable was logged.

Number of Staff: The number of staff in an agency. Part-time members were counted on the basis of the fraction of full-time which they worked in the organization.

Number of Occupational Specialties: On the basis of their job titles and a description of the tasks they performed, staff members were placed into eight categories: Administration, Basic Education Instructors, Work Skills Instructors, Guidance and Counseling, Interviewers, Job Placement and Development, Social Workers and Community Organizers, and Staff positions (e.g., publicity, evaluation, training, research). The number of different categories represented was used as the organization's score.

Professional Training: The average number of years of education of the staff members.

Professional Activity: This is an index based on: one point for belonging to a professional association, one point for attending any professional meetings during the previous five years or holding an office in a professional association during the previous five years.

Number of Services Offered: Staff members were asked to identify the services offered by their organizations from the following list: Outreach, Intake and assessment or diagnosis, Orientation of clients or program participants, Basic education, Work skill training, On-the-job training within the organization, On-the-job counseling or supervision (at sites in other organizations), Counseling, Supportive services (e.g., day care centers, transportation), Job development (solicitation), Sending referrals for job placement, Sending referrals to other organizations to receive personal services, follow up on referrals, Research and planning. This variable was logged.

Breadth of Services Offered: Staff members were asked how often they dealt with the following aspects of their clients' lives: Medical problems, Family relationship, Other social problems (e.g., related to their work or neighborhood), Economic problems, Educational needs, and experience. Psychological characteristics, Plans and dreams. Four response categories ranged from "Every time we meet with them" to "Never".

Percent Boundary Spanning Tasks: The percent of staff engaged in the following activities: Intake and assessment, Job development, Sending referrals for job placement, Sending referrals for personal services.

Participation in Interagency Coordination: The average number of manpower-related organizations (e.g., CAMPS) which staff members belong to. This variable was logged.

Voluntary Association Memberships: The average number of community or civic action organizations (e.g., NAACP, Settlement House Board) the staff members belong to. This variable was logged.

Previous Jobs: The average number of previous jobs the staff held in the following types of organizations: Employment Service, other manpower organizations, business organizations, public agencies, education organizations, other community service type organizations. This variable was logged.

Communications: The number of regularly scheduled meetings within an organization per month. This variable was logged.

Formalization: An index composed of the organization's standardized scores regarding the presence or absence of: (1) An organization chart; (2) Written contracts of employment; and (3) Written records of job performance. The latter two variables were scored on the basis of whether they were available for administrators and supervisors only, or for all non-clerical personnel.

Centralization: The staff members' average response regarding how often they participated in making the following decisions: (1) To promote any of the non-clerical staff; (2) To hire new staff members; (3) To adopt new policies; and (4) To adopt new programs. Responses were coded on a 5 point scale from "Never" to "Always".

FIGURE 1

Determinates of Organizations Set Size and Diversity Classified According to the Power Agency Heads Had to Manipulate Them

| Category A<br>No, or Very Little Control | Category B<br>Some Control | Category C<br>High Control |
|---|---|---|
| Community Context | Characteristics of the Staff | Boundary Spanning Activities |
| A1. Number of organizations in the community | B1. Professional training | C1. Participation in interagency coordination Councils |
| A2. Concentration of organizations in community | B2. Professional activity | C2. Memberships in local voluntary association |
| | B3. Previous jobs in local organizations | C3. Percent boundary spanning positions |
| Organizational Size and Complexity | | Administrative Control and Coordination |
| A3. Budget | | C4. Centralization of decision making |
| A4. Number of staff | | C5. Formalization of work rules and procedures |
| A5. Number of occupational specializations | | C6. Number of staff meetings |
| Technological Complexity | | |
| A6. Number of services offered | | |
| A7. Breadth of services offered | | |

TABLE 2

Multiple Regressions for Organization Set Analysis

| Dependent Variable | Beta Weights for Independent Variables | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D1 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | C5 | C6 |
| Set Size (D1) $R^2$ = .44 | NA | 30# | NA | -02 | .06 | 42# | .05 | .23# | .04 | .11 | .14 | -.02 | .29# | .17 | .10 | .12 | 20# |
| | $R^2$ = .28 | | | | | | | | Increment to $R^2$ = .16** | | | | | | | | |
| Set Concentration (D2) $R^2$ = .45 | -26 | NA | .33# | -30# | -39# | -33# | -.20# | -23# | -23# | -11 | -01 | .07 | .16 | -22* | -10 | .19* | -15 |
| | $R^2$ = .33 | | | | | | | | Increment to $R^2$ = .12 | | | | | | | | |

N = 67

*p = .10

+p = .05

#p = .01

**Note: $R^2$ for the block of B and C variables represents the increment to $R^2$ after all variables in block A have been entered.